Pembrokeshire County Council

Contaminated Land Inspection Strategy 2016

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EXECUTIVE SUMMARY

Under the Contaminated Land (Wales) (Amendment) Regulations 2012, Pembrokeshire County Council is required to inspect its area for contaminated land as defined by Section 78A of the Environmental Protection Act 1990. Two previous Inspection Strategies in 2002 and 2010 were submitted to Welsh Government, detailing how the Authority would take a rational, ordered and efficient approach to the inspection process.

During the period since the last review significant changes in guidance have taken place with the release of the Contaminated Land (Wales) (Amended) Regulations 2012. Due to further devolution of powers from Westminster to the Welsh Government, Environment Agency Wales (EAW) has been replaced with Natural Resources Wales which along with EAW functions also encompasses the former Forestry Commission Wales and Countryside Council for Wales functions.

This Strategy updates the previous documents and incorporates the changes identified within the new guidance. It details the methodology to be employed by Pembrokeshire County Council to implement its duties under Part 2A and also focuses on the inspection process and sets timescales for completion.

A five year programme of inspection was originally envisaged to be undertaken, from October 2002 to April 2007. The program of inspection was extended to 2015 as both the time to investigate, collate and record the necessary information was underestimated, as was the level of internal and external enquiries and requests for information. Significant progress has been made with the inspections, with all sites within the database having some pertinent data associated. However, it is now considered that the system is ‘fluid’, with information being collated and updated on a regular basis, and that although the Council should aim to continue site inspections in line with the Strategy no time constraints should be imposed.

It is anticipated that prior to the next Strategy review all sites will undergo a further desk based review of information, utilising the advanced technology we now have at our disposal including GIS and street level mapping to ensure that the information is as current as possible. This will inevitably aid in risk prioritisation to ensure that the highest risk sites are, in fact, investigated further accordingly.

Significant work has been undertaken since the last review on the recording of disused fuel tanks within Pembrokeshire. This project has been undertaken in collaboration with the Health & Safety Team who licence petroleum tanks within the County. Using information held by their Team and historical records from Dyfed the Contaminated Land database now contains information on historical tanks within the County which in turn is linked to the risk assessment and therefore affects the priority

of each site. It has also proven to be a useful dataset for solicitor and developer enquiries.

There also continues to be a general approach by the Council to assessing its own land as a priority (where appropriate) and a desktop screening review of current and past Council landholdings was completed by the end of 2005. To date, we have completed the following major site investigations: Waterloo Industrial Estate, South Pembrokeshire Golf Club, Meads, Narberth Town Moor, Golden Lane and Goodwick Moor. The majority of the works previously have been funded by the Welsh Governments Contaminated Land Capital Fund. However, this was withdrawn in 2010/11 and as such any further investigations have been funded by Pembrokeshire County Council, although this has been limited.

During the current budgetary constraints within the Council, and the lack of Welsh Government funding support, the Council have focused primarily on working with the Local Planning Authorities (Pembrokeshire County Council and Pembrokeshire Coast National Park Authority) to ensure that private sites are remediated as far as reasonably practicable via voluntary methods and therefore reduce the strain on the limited Part 2A funding available.

Accordingly therefore we anticipate over the next five years that privately owned sites will continue to be dealt with on a voluntary basis and through the planning process. Where a high risk is identified however, the Council will endeavour to investigate under Part 2A by working in close partnership with NRW and other organisations via the procedures outlined below.

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Report Revision History

Revision	Reason for Revision	Revised By	Date
V5	Approval by Director of Development	Steven Jones	05/08/2016
V4	Incorporation of comments following consultation	Rachel Thomas	05/08/2016
V3	Review by Head of Public Protection	Mark Elliott	25/04/2016
V2	Review by Pollution Control & Licensing Manager	Sarah Johns	19/04/2016
Draft v1	Initial Document Production	Rachel Thomas	14/04/2016

1. INTRODUCTION

1.1. The Contaminated Land Regime

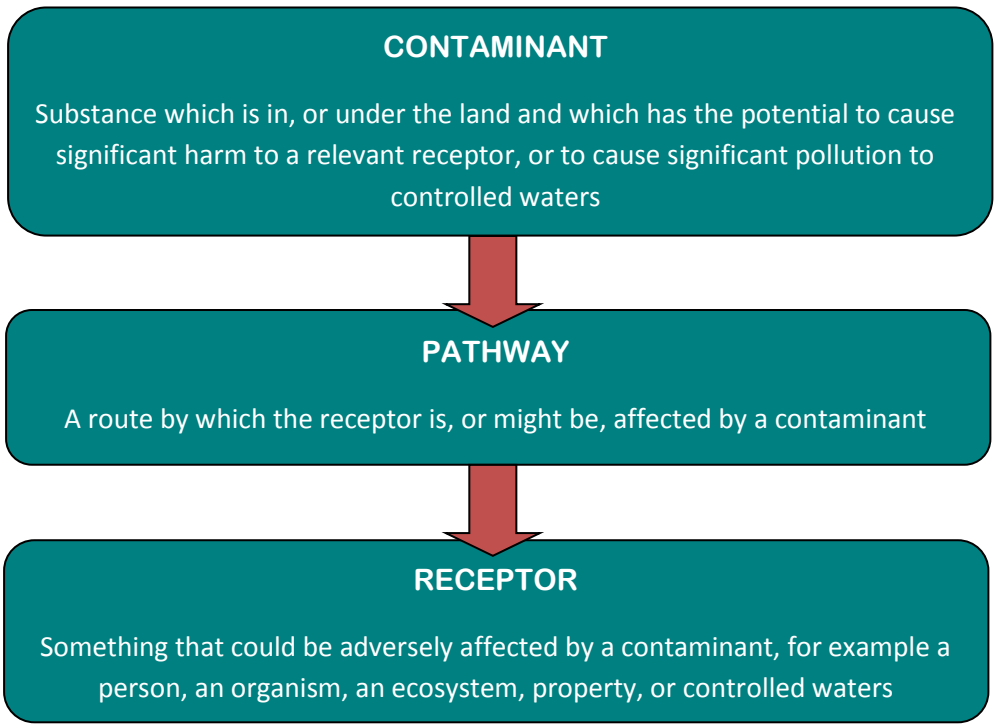
Contaminated Land Regulations have been under development since the early 1990's. Following consultation on the 1993 White Paper "Paying for our Past", a new section (Part 2A) was added into the Environmental Protection Act (EPA) 1990. The regulations and Statutory Guidance came into force in Wales in July 2001. In April 2012 the Welsh Government (WG) published updated Contaminated Land Statutory Guidance. Radioactively contaminated land was removed from this guidance and is now dealt with through the Radioactive Contaminated Land Statutory Guidance for Wales 2012. It is partially this update in Guidance and subsequent publication of the associated Category 4 Screening Levels at the end of 2013 that has prompted the revision of this Strategy document.

1.2. What is Contaminated Land?

The legal definition of contaminated land is given in Section 78(A) of the EPA 1990 and defines contaminated land as:

> Any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land that:
>
> a) Significant harm is being caused or there is a significant possibility of such harm being caused; or
> b) Significant pollution of controlled waters is being caused, or there is a significant possibility of such harm being caused.

A pollutant linkage consists of three parts:



Land may be polluted but unless it meets the definition above it may not be defined as Contaminated Land as a significant pollutant linkage must be established.

1.3. Dealing with Contaminated Land

The main purpose of Part 2A is to provide a legally supportive structure for the identification of land posing unacceptable risks to human health or the environment, and to allow remediation of such land to be undertaken.

There are four main elements to the approach:

i. To establish whom is the "appropriate person" to bear responsibility for the remediation (or "clean-up") of the land;
ii. To decide what remediation is required and to ensure that this occurs, through:
    a) Reaching a voluntary agreement;
    b) Serving a remediation notice, if agreement cannot be reached; or
    c) Carrying out work ourselves, in certain circumstances.
iii. To determine who should bear what proportion of the liability for meeting the costs of the work; and
iv. To record certain information about regulatory action on a public register.

1.3.1 The Roles of Pembrokeshire County Council and Natural Resources Wales

Local Authorities have been given the primary regulatory role under the Part 2A regime and Pembrokeshire County Council has a number of Statutory Duties, all of which it will comply with:

STATUTORY DUTIES

- To prepare and adopt an Inspection Strategy and to keep the Strategy relevant and updated by periodic review;
- To inspect their area for contaminated land in accordance with their adopted Strategy;
- To determine whether any particular site meets the statutory definition of contaminated land;
- To act as the enforcing authority for all contaminated land, unless the site meets the definition of a "special site" (in which case Natural Resources Wales will act as the enforcing authority);
- To ensure that appropriate remediation of contaminated land takes place either through encouraging voluntary action or enforcement of statutory powers;
- To maintain a Public Register of Part 2A regulatory action; and
- To provide the required information to Natural Resource Wales for their annual report on contaminated land.

Natural Resources Wales (herein referred to as NRW) have a secondary regulatory role in assisting Local Authorities (especially in relation to controlled waters); providing site-specific local guidance, dealing with “Special Sites” and publishing periodic reports on the state of land contamination nationally.

Appendix B gives further details on the criteria to be used in designating a special site and thus the delineation of responsibility between the Local Authority and NRW.

2. CHARACTERISTICS OF PEMBROKESHIRE

2.1. Geographical Location and Description

Pembrokeshire forms the south western peninsula of Wales, bordered to the north and east by the Counties of Ceredigion and Carmarthenshire, and to the west and south by the waters of Cardigan Bay, St. Georges Channel, the Bristol Channel and Carmarthen Bay. This Strategy applies to the entirety of Pembrokeshire, including the National Park areas.

The County covers an area of approximately 1,619 square kilometres. Approximately on third of the County's landmass forms the Pembrokeshire Coast National Park Authority. The County is rich in sites of high conservation value, including unique islands and formal designations including a Marine Nature Reserve, Special Areas of Conservation, Special Protection Areas, National Nature Reserves and Special Sites of Scientific Interest. There are pressures on environmental quality, many of which are common "manmade" issues such as intensive land use, waste disposal and transport issues, although some are more obviously pronounced in more urbanised areas.

2.2. Population Distribution

The County is predominately rural with a population of 123,666 people, which is 76 people per square kilometre, which is just over half the Welsh average[1]. Just under half reside within the six principal towns of Haverfordwest, Milford Haven, Pembroke Dock, Pembroke, Fishguard (and Goodwick) and Tenby. Population projections show that the proportion of people of pensionable age will increase significantly in future years, and the number of younger people will decline, which has implications especially for health and the economy.

[1] Welsh Government Website. Accessed 12th April 2016. www.statwales.wales.gov.uk/Catalogue/Population-and-Migration/Population/Density/populationdensity-by-localauthority-year

2.3. Socio-economic Profile of Pembrokeshire

Pembrokeshire has an important agricultural base, but the economy is dominated by the service sector. Tourism accounts for a significant number of employment opportunities and also has a significant effect on population at certain times of the year (e.g. 733,400 visitors in August compared to 488,600 in September[2]).

The ports of Fishguard and Pembroke Dock provide ferry links to Southern Ireland, resulting in a large throughput of both commercial and private traffic and people. The port of Milford Haven is the largest energy port in the UK.

2.4. Geology

Pre-Cambrian rocks underlie much of the County, with localised outcrops on the St David's Peninsula and near Hayscastle. Evidence of igneous Pre-Cambrian outcrops also found at Treffgarne Gorge. Pre-Cambrian rock forms a broad belt extending for a distance of 13km eastwards from Ramsey Sound. This belt is flanked by sedimentary red shales, mudstone and sandstone of the Cambrian period.

The rock to the north of the East and West Cleddau dates from the Ordovician and Silurian during a period of intense volcanic activity and rock formation (over 1,000 million years ago). The intrusive and extrusive igneous rocks from this period rise above the coastal plateau and form the upland of the Preseli hills and the rugged north-facing coast between Pen Caer and the St David's peninsula. These igneous rocks form cairns and are believed to have been the source of the Stonehenge bluestone pillars.

Also deposited during this period were sedimentary rocks, including sandstone, grit and shale, which underlie much of the north of the County. Rocky outcrops from this period remain as headlands where the softer Ordovician shales have been eroded along the coast. There is also evidence of Silurian rock in the northern coastal belt between the Teifi estuary and Dinas Head and extending to the east and west of Haverfordwest between St Ishmael's and Skomer Island on the Dale peninsula.

The area to the south and east of the Daugleddau contains substantial areas of limestone interspersed with bands of

[2] Pembrokeshire County Council. STEAM Report. 2012.

Devonian Old Red Sandstone. The sandstone can be found along the ridgelines caused by folding whilst the limestone is found in the river valleys. These rocks also form the dramatic coastline of the south of the County with the limestone associated with the high vertical cliffs, sea stacks, coves, arches, headlands and points and the sandstone with the sandy bays, dune fields and coves. The natural harbour at Milford Haven has formed due to the softer presence of sandstone, which has been eroded by the sea.

Sandwiched between the Devonian Sandstones and ancient Silurian and Ordovician rocks is an area of Carboniferous coal measures and Millstone grit deposits associated with the South Wales coalfields.

The present landform began its development at the end of the Cretaceous period with intense uplifting, folding and large scale faulting taking place. The landscape underwent further sculpturing through glacial movements and other natural processes. Glacial melt-water during the last ice age have produced the deep Gwaun and Nevern valleys and many coastal features have been created through glaciation. In addition, changes in the sea level have influenced the coastal appearance with raised beaches and drowned river valleys such as the Daugleddau inlet being characteristic. The movement of the sea has also created islands such as Caldey and Ramsey and numerous coastal features.

The older Lower Palaeozoic rocks predominantly produce the silty loams that support the extensive grassland vegetation of North Pembrokeshire. The soils above the younger Palaeozoic rocks are more fertile with the Devonian Old Red Sandstone extending to the west and south of the Daugleddau estuary. These fertile soils are particularly suitable for arable crops and broad leaved woodland. The coalfields are relatively infertile, with this area spreading across the centre of the district from Broad Haven in the west, eastwards towards Carmarthen Bay.

2.5. Hydrogeology & Water Resources

In 2010 the Environment Agency (EA) produced the Groundwater Protection Policy (GP3) which utilised aquifer designations that are consistent with the Water Framework Directive. The original map that this report is based on has not been

withdrawn as new mapping is currently being undertaken. As such aquifers previously designated as Major and Minor now become Principal and Secondary respectively. The EA Aquifer Vulnerability Map 34 covering Pembrokeshire shows the classification is split broadly into Unproductive Strata in the northern half of the area and Principal and Secondary Aquifers to the south.

The negligible permeability of the igneous rocks, mudstones and shales leads to their general classification as Unproductive Strata, although where fractured and in upper weathered zones they can support small groundwater flows and spring sources. This is evidenced by the Source Protection Zones at Eithbed and the Brynberian Standby supply.

Alluvial sands and gravels, the Old Red Sandstone and sandstone beds within the Coal Measures are all examples of Secondary Aquifers, supporting variable rates of groundwater flow that can be locally significant, both in supporting base flow to rivers as well as being drawn upon by local abstractors. Another Source Protection Zone is drawn up at Henfeddau in the north.

The Carboniferous limestone forms a Principal Aquifer of regional importance. It supports large potable supplies, with Source Protection Zones around the supplies at Valley Court, Pendine, Milton and the Park Springs Standby.

2.6. Current and Past Industrial History

Historically, agriculture has been the dominant industry in Pembrokeshire although a range of other industries have been of significance. Coal mining was widespread along the anthracite seam running from the Saundersfoot area, up to and beyond Hook. There were a number of small metalliferous mines throughout the County; the most extensive being the silver-lead workings at Llanfrynach. Quarrying has also been widespread in the County with slate workings in the north, limestone extraction for construction in the south and sandstone and igneous rock extraction in the west. Iron working occurred in the Kilgetty / Stepaside area in the 19th Century with earlier workings in the Blackpool Mill area. There have been a number of mills throughout the County, along with brick works, gas works, and a chemical works. Many of these historic works contribute significantly to the historic landscape of Pembrokeshire and are protected as scheduled ancient monuments and listed buildings.

The area surrounding the Milford Haven Waterway has historically been dominated by maritime industries; particularly the Royal Naval Dockyard at Pembroke Dock and Milford Haven Docks. The military have had a major presence both on the waterway and around the County, which continues in several areas.

The oil industry has been a major feature in the Haven area with refineries, oil tank farms and an oil fired power station operating previously. Although the oil refining

industry has experienced a reduction in its presence within the Haven, the port is still the largest energy port in the UK. It now receives Liquefied Natural Gas (LNG) at the former Esso refinery at South Hook and Dragon LNG at the former Gulf refinery which have the capacity to supply up to 30% of the UK's gas requirements. A gas fired power station in Pembroke also came online in 2012.

2.7. Designations

Pembrokeshire has a variety of designated areas, ranging from European to National to local designations. Although a mixture of statutory and non-statutory, all are equally important in preserving the countryside of Pembrokeshire and therefore must all be considered when assessing the impact of potentially contaminated land. Further detail on each designation can be found in Appendix C.

2.7.1. European Designations

There are several sites within Pembrokeshire with the following European designations:

- Special Areas of Conservation; and
- Special Protection Areas.

2.7.2. National Designations

There are a number of national designations that need to be considered that play an import role in the protection of the countryside as a whole. The following designations apply to sites within Pembrokeshire:

- National Park;
- Sites of Special Scientific Interest;
- National Nature Reserves;
- Marine Nature Reserves;
- Tree Preservation Orders; and
- Archaeological Sites – Scheduled Ancient Monuments / Listed buildings.

2.7.3. Local Designations

There are a number of designations that have been made at a local level that need to be taken into account. Although they are non-statutory this does not mean that where local designations are made that they are of little importance, but rather that a strong justification should be given for their designation over and above the value of the countryside as a whole. These designations include Areas of Special Landscape Value.

2.7.4. Regionally Important Conservation Sites

These areas are designated for their geological, geomorphological or nature conservation value. These sites should be significant at a regional scale but are not recognised at a national scale of meeting the criteria as an SSSI. The following sites are present within Pembrokeshire:

- Local Nature Reserves and County Wildlife Trust Nature Reserves;
- Ancient Woodland;
- Common Land of Special Interest;
- Regionally Important Geodiversity Sites (RIGS); and
- Local Amenity Areas.

2.7.5. Other Designations

There are a number of other non-statutory designations that recognise the importance of areas of land for their landscape, geological and ecological value. Whilst they have little legal status they are a further consideration when assessing inspection priority in these areas. These include:

- Heritage Coast;
- Register of Landscapes, Parks and Gardens of Special Historic Interest in Wales;
- Glastir (formerly Environmentally Sensitive Area and Tir Gofal); and
- Agricultural Land Classification.

3. THE PEMBROKESHIRE STRATEGY: OVERALL AIMS

3.1. Government and Corporate Objectives

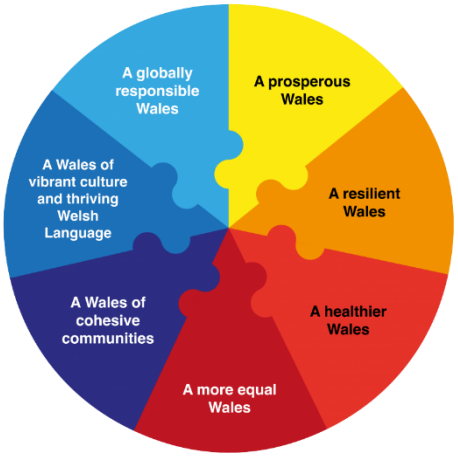
3.1.1. Welsh Government Objectives

The Government has recognised that land contaminated in the past presents a threat to sustainable development, i.e. it threatens the environment, both now and in the future. The Government's key objectives are:

i. To ensure that risks associated with land contamination are reduced to an acceptable level;
ii. To bring contaminated sites back into beneficial use; and
iii. To make sure that the cost burdens in doing so are proportionate, manageable and economically sustainable.

The Government considers the most effective way of delivering these objectives to be through the application of the 'suitable for use' approach. This recognises how risks presented by land contamination vary depending on what the land is used for as well as its environmental setting. The main element is to ensure that where 'unacceptable' risks to human health or the environment are identified, remediation requirements should be set on the basis of the current use or proposed use as well as the circumstances of the land. Risks will therefore always need to be assessed on a site-specific basis.

The Government introduced the Well-being of Future Generations (Wales) Act in 2015. The Act is about improving the social, economic, environmental and cultural well-being of Wales, with the public bodies working with each other and in a sustainable way. The identification and remediation of contaminated land contributes to a holistic approach for positive health benefits to the community as it is likely to reclaim derelict land and aid in the enhancement of amenity by providing green spaces.



3.1.2. Corporate Objectives

The Inspection Strategy is presented in the context of the Council's Improvement Plan which is updated on an annual basis and sets out the Council's plans and how it will seek to improve its services. It also links in with the integrated planning process, which provides the overarching plan for Pembrokeshire. The Single Integrate for Pembrokeshire 2013-2018 has replaced the former Community Plan as the most important strategic planning document.

The Improvement Plan is structured around the six key outcomes of the Single Integrated Plan:

KEY OUTCOME
Children: children, young people and families have the opportunity to fulfil their learning potential and to live healthy and happy lives
Economy: Pembrokeshire has a competitive, productive and sustainable economy
Environment: people in Pembrokeshire enjoy an attractive, sustainable and diverse environment
Health: people in Pembrokeshire are healthier
Safeguarding: children and adults are safeguarded
Safety: communities in Pembrokeshire feel safe

Regeneration in its widest sense links into the heart of this Strategy and to deliver these policies successfully the Council needs to be forward looking and flexible. Land contamination has significant impacts on both the environment and the economy so these policy areas are therefore key considerations in developing this Inspection Strategy.

3.1.3. Development Plan

Pembrokeshire County Council and the National Park Authority have each produced Local Development Plans (LDP) which contain policies and proposals that provide a basis for decision making on planning applications and for framing conditions on consented applications within their jurisdictions. Both the LDPs consider

contaminated land and the Pollution Control Team are consulted on planning applications where there is a potential for contaminated land to exist.

3.2. Aims, Objectives and Priorities of the Inspection Strategy

3.2.1. Development of the Strategy

All Local Authorities are required to take a strategic approach to inspecting land in its area for contamination. The Statutory Guidance requires that the approach adopted should:

- Be rational, ordered and efficient;
- Be proportionate to the seriousness of any actual or potential risk;
- Seek to ensure the most pressing and serious problems are located first;
- Ensure that resources are concentrated on investigating areas where the authority is most likely to identify contaminated land; and
- Ensure that the Local Authority efficiently identifies requirements for the detailed inspection of particular areas of land.

The original Inspection Strategy was published in September 2002 with a revision published in 2010.

3.2.2. Aims

These are overall *current* aims, which interlink with, and are supported by, those of existing Council policies and strategies. They also reflect the Council's statutory duties. It is not intended for these aims to be achievable solely through the implementation of Part 2A. Delivery of other Council strategies and statutory functions may also contribute. The aims may be reviewed and revised as the Inspection Strategy is implemented and targets are achieved and also in light of changes in Council policy, Government guidance and legislation.

AIM 1: To Achieve Environmental Improvement	
Objectives	**Priorities**
Identify those sites where land contamination is presenting unacceptable environmental risks and ensure remediation takes place.	Identify potentially contaminated sites in Pembrokeshire
	Prioritise sites for inspection on the basis of risk level
	Prioritise risks to human health above all others
AIM 2: To Reduce the Council's Impact on the Environment	
Objectives	**Priorities**
Identify Council-owned / occupied contaminated sites,	Be a responsible landowner towards inspecting our own land and dealing with contamination

which should be prioritised for remediation as part of asset management. and Manage and / or reduce the Council's liabilities as a landowner / occupier.	Ensure public confidence in the Council's objective assessment of its own landholdings
	Encourage & support Council land managers to review & manage their landholdings in such a manner as to promote long term sustainability & prevent harm to health and the environment
AIM 3: To Encourage Regeneration and Redevelopment	
Objectives	**Priorities**
Identify contaminated sites where regeneration and redevelopment could facilitate remediation. and Enable informed decisions regarding future land use.	Provide information to enable the Council to act in accordance with Government planning policy guidance
	Provide information, support and guidance to internal and external stakeholders on matters of land contamination
AIM 4: To Fulfil the Council's Responsibilities with Respect to Implementing Environmental Legislation	
Objectives	**Priorities**
Ensure the Inspection Strategy and its implementation meets the requirements of Part 2A of the EPA 1990.	Adopt a rational, ordered and efficient approach to inspection
	Identify most pressing and serious problems
	Report to Welsh Government and NRW on the progress of its site inspection process and status of contaminated land sites
	Identify potential Special Sites in liaison with NRW
	Ensure that officers dealing with contaminated land issues are trained and up to date with new legislation and guidance
AIM 5: To raise awareness and promote understanding of land contamination issues	
Objectives	**Priorities**
Encourage a proactive approach amongst landowners and potential polluters towards investigation of contamination. and Encourage voluntary remediation.	Undertake a wide consultation on future reviews of the Inspection Strategy amongst stakeholders
	Develop effective procedures for communication, liaison and information exchange within the Council and with third parties
	Provide appropriate training and advice on contaminated land issues

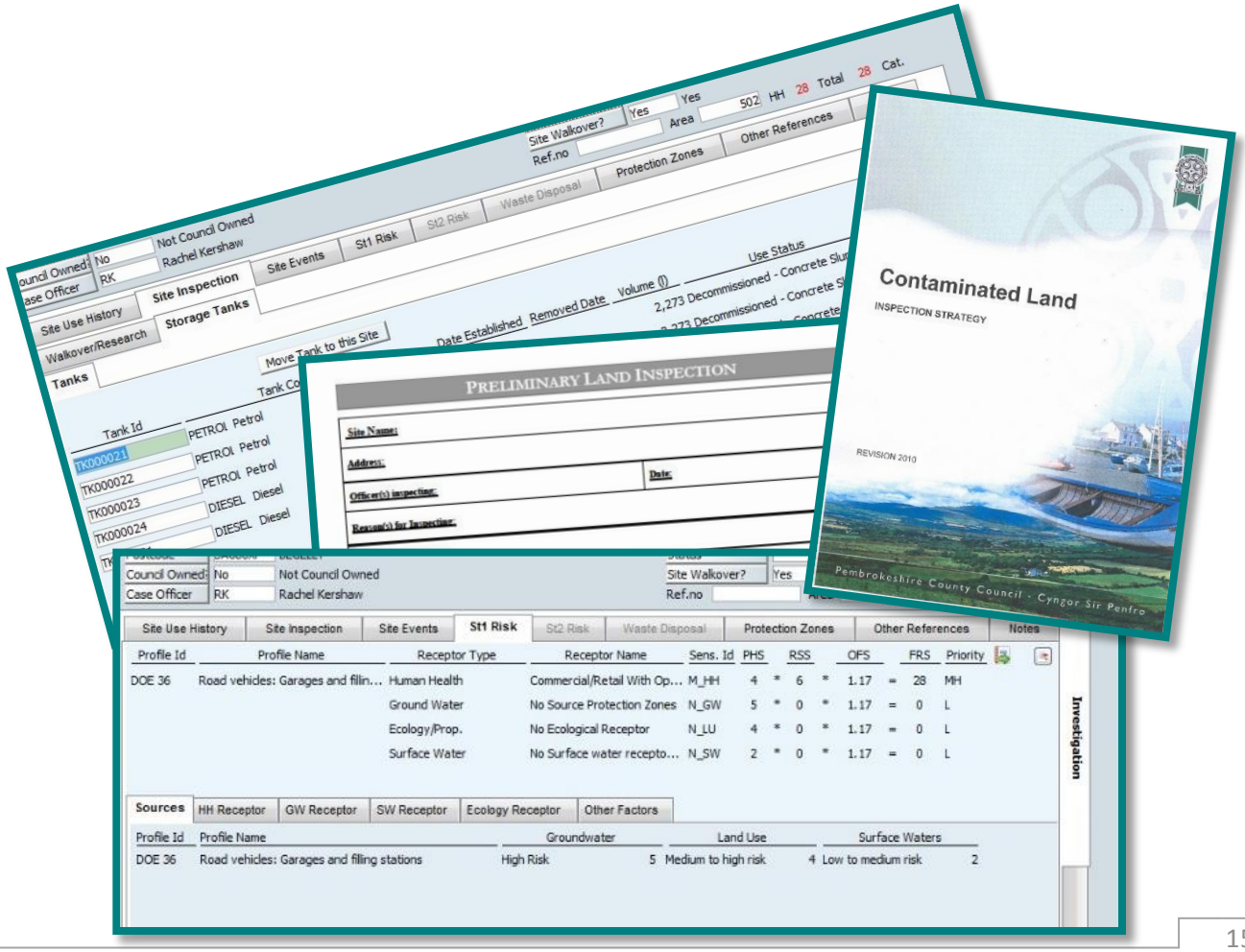
3.3. Site Prioritisation

Dealing with contaminated land constantly identifies complex issues, often where limited amounts of information are available. For each site, the importance of these issues must be balanced in order to move forward in dealing with the problem. A prioritised list of the Council's aims has therefore been devised to aid decision making.

The Council's priorities (in descending order) in dealing with contaminated land will be:

1. To protect human health
2. To protect controlled waters
3. To protect designated ecosystems
4. To prevent damage to property and designated historic sites
5. To prevent any further contamination of land
6. To encourage voluntary remediation
7. To encourage re-use of Brownfield land

In all cases this list will have regard to significance and likelihood, as required by the regulations. Owing to the relatively large area of Pembrokeshire and the significant amount of data pertinent to any site, a GIS management software package is utilised that also facilitates public viewing of permitted data via the Council's web site.



3.4. Inspection Programme

The inspection process has been broken down into a series of actions as detailed below:

Action	How actions will be achieved	Timescale
Maintain Contaminated Land Database	Continually updated as new information becomes available.	Rolling Programme
Undertake investigation of high priority sites	Inspection of higher risk sites identified using prioritisation tool. At present no funding is provided by WG, any investigation would have to be internally funded by the Council.	Rolling programme
Investigate Council Owned Land	To ensure public confidence in the Council's objective assessment of its own landholdings a desktop screening review of current and past Council landholdings was carried out prior to December 2005. Allows a more accurate inspection priority of its landholdings within the overall inspection timetable for the County. Council owned land and buildings are managed in accordance with the Strategic Asset Management Plan. Detailed strategies will be prepared for the various parcels of contaminated land owned by the Council once risk assessments have been completed for each site.	Main Programme: October 2002 - 2015 Additional sites for sale: Ongoing
Take action on urgent sites	If information comes to light that there is verifiable information of a site causing significant harm, the general approach to inspection will be secondary to dealing with such sites. The regulations and statutory guidance recognise this scenario is realistic and the proposed approach is in line with the guidance. This stage may include designating "special sites" and referring the lead regulatory role for these sites to NRW.	Ongoing

Action	How actions will be achieved	Timescale
General approach to inspection	The timescale for the detailed site investigations is dependent upon funding, the likely extent of any contamination and any evidence of an immediate / urgent risk. The sites are prioritised according to a Stage I risk prioritisation based on the type of land uses, known pathways and potential receptors. This first stage enables the production of a list of prioritised sites for site inspections / site walkover. The most effective means of assessing the current status of a given site and the risk it poses to the most sensitive receptors is to physically inspect it although consideration of and use of GIS tools is increasingly important. A desktop review of any existing site surveys and reports will be undertaken following the Stage I prioritisation. A Stage II risk prioritisation is necessary once the sites have been inspected to further prioritise them for more detailed and possibly intrusive site investigations. This will be based on the findings of the site walkover, the existence of pathways by which a contaminant can reach a potential receptor, the type of contaminants likely to be present at the site and the proximity of receptors.	Ongoing **Stage I completed**
Reassign Prioritisation Categories	Following the introduction of the new Statutory Guidance site prioritisation will need to be reconsidered to reflect the new categories. This will be undertaken following consultation with the regional SW Wales Contaminated Land Group to ensure a consistent approach is achieved. New sites will automatically be assigned a category based on the risk.	Ongoing
Open a public register	The contaminated land public register will only hold details of determined contaminated land sites	Ongoing

3.5. Strategy Review Programme

The Strategy review process has been broken down into a series of actions as detailed below:

Action	How actions will be achieved	Timescale
Draft Strategy collation	Period for collation of various elements for the Strategy and informal consultation prior to going out for the formal consultation in May 2016.	**Completed**
Consultation	It is a statutory requirement for the authority to consult on the strategy both internally and externally as followed during 2002 Strategy. The draft 2016 Inspection Strategy will be issued for comment to NRW and other appropriate public authorities, such as WG, Cadw[3], Food Standards Agency, and Pembrokeshire Coast National Park Authority. Comments will also be invited from neighbouring Local Authorities in the Southwest Wales region. In order to give the public and other interested parties the opportunity to comment, the 2016 draft Inspection Strategy will also be publicised in the local press and published on the Pembrokeshire County Council website.	May 2016 – July 2016
Publish final inspection Strategy	The Strategy will be subjected to ratification by Pembrokeshire County Councils' Director of Development and submitted to WG and NRW.	August 2016
Review Strategy	The Strategy will be reviewed every 5 years or upon a change in Statutory Guidance.	Next planned review 2021.

[3] Cadw, translated as 'to protect' or 'to keep' is the Welsh Governments Historic Environment Service

4. PROCEDURES

4.1. Internal Management Arrangements for Inspection and Identification

For Pembrokeshire County Council, the Public Protection Division within the Development Directorate has lead responsibility for the implementation of Part 2A of the EPA 1990. As part of the Pollution Control Team, the Contaminated Land Inspector is the lead officer on contaminated land.

It is likely that any intrusive site investigations will be contracted out to a third party selected through the appropriate procurement methods. Normally the Council will not use such parties to make decisions regarding the determination of a site as Contaminated Land, although the Council may use advice given by them.

Elected members will be informed at the earliest opportunity of any plans to designate an area as Contaminated Land where such land is either:

- Within their wards;
- Is Council owned land; or
- Is land where the Council is the “appropriate” person (as defined in the Regulations).

4.2. Considering Local Authority Interests in Land

Investigation of Council owned land will be carried out with appropriate priority and will not be prioritised over sites that present a much higher risk. The aims for the Council regarding its own holdings are presented as Aim 2 in Section 3.2.2.

4.3. Information Collection

Many sources of information are required to identify potential sources of contamination and potential receptors. Some of the resources are presented with Appendix D. The Pollution Control Team also receives ongoing information from a variety of sources to assist with its identification and investigation of potentially contaminated sites.

The Council uses a software database to log, store and reference site specific information and a Geographical Information System, QGIS. GIS is a computer system capable of assembling, storing, manipulating, and displaying geographically referenced information, i.e. data identified according to their locations. The Contaminated Land GIS will enable all digitised data about any one site to be viewed simultaneously.

4.4. Risk Prioritisation

There are three principal aspects to the implementation of the Inspection Strategy with a conditional fourth stage.

4.4.1. Stage 1: Risk Prioritisation - Site Prioritisation

A preliminary screening of essential datasets to determine the order in which sites should be inspected. Sites where potential pollutant linkages exist will be identified. Those sites presenting the greatest potential risks will be prioritised for inspection. All sites will be inspected whether or not a pollutant linkage has been identified during the information collation process as certain pathways and receptors may not have been considered.

4.4.2. Stage 2: Initial Inspection

Collation and assessment of further information through desk-based means, visual walkover, and potential sampling as a screening exercise. The site walkover can also encompass a monitoring exercise especially in relation to landfill sites.

4.4.3. Stage 3: Risk Prioritisation

Refine the stage 1 risk prioritisation based on the conclusions of the desktop study and the site inspection in order to identify sites requiring more detailed and possibly intrusive site investigation.

4.4.4. Stage 4: Site Investigation

The site investigation main objectives are to characterise the type of contaminants present on site and to determine the existence of pollutant linkages. The site investigation provides specific information in order to develop a site specific risk assessment, aimed at deciding whether or not a site appears to be Contaminated Land.

Further explanation and detail on each stage of the prioritisation is presented within Appendix E.

4.4.5. Category 4 Screening Levels

The revised Statutory Guidance for Part 2A of the EPA 1990 produced in 2012 was designed to address concerns regarding its real-world application. As part of the revision a new four category system for classifying land under Part 2A, ranging from Category 4, where the level of risk posed is acceptably low, to Category 1, where the level of risk is clearly unacceptable was presented.

In line with this category system Category 4 Screening Levels (C4SLs) have been produced. These represent a new set of generic screening levels in relation to human health which are more pragmatic (but still strongly precautionary) compared to the existing soil guideline values (SGVs) and other similarly derived numbers. The C4SLs consist of cautious estimates of contaminant concentrations in soil that are still considered to present an acceptable level of risk, within the context of Part 2A, by combining information on human health toxicology, exposure assessment and normal ambient levels of contaminants in the environment[4].

As a result of this introduction the Council will need to undertake a further review of the information held and where possible assign a new prioritisation category based on the 1 to 4 system rather than the very low to high rating that is currently utilised. Where further information comes to light or where a new site is identified the new categorisation will be implemented.

4.4.6. Normal Background Concentrations (NBCs)

The Part 2A regime was introduced to help identify and deal with land which poses unacceptable levels of risk. Also, as part of the introduction of the new Statutory Guidance the British Geological Society (BGS) were commissioned to give guidance on what are normal levels of contaminants within soils. These define the upper limit of ‘normal’ levels of a number of contaminants.

As Part 2A is not intended to apply to land with levels of contaminants in soil that are commonplace and widespread, the Council will consider these background values when inspecting potentially contaminated land but will also review the use on a site by site basis. It must be noted that they are not a planning tool and must be used in the context of the Statutory Guidance.

[4] CL:AIRE website. Accessed 13th April 2016. http://claire.co.uk/index.php?option=com_content&view=article&id=955&Itemid=357

Further details on both C4SLs and NBCs are presented within Appendix E.

4.4.7. Special Sites

A site is identified as being potentially contaminated and it is suspected that the site could be defined as a Special Site, NRW will be informed. If they agree on the likely designation, then they will be requested to undertake a more detailed review of any information relating to the site and potentially undertake detailed site investigation. All site-specific data held by the Council will be copied to NRW. NRW's procedures for carrying out inspections are detailed in its own internal standard.

4.5. Data Provision

4.5.1. Service Requests

A request regarding contaminated land will be dealt with following the same procedure as currently used by the Council's Public Protection Division to deal with service requests in respect of an alleged complaint, for example regarding statutory nuisance.

Every effort will be made to respond quickly and efficiently. The legislative framework does, however, present a number of obstacles to speedy resolution of problems:

i. Proof of a viable pollutant linkage before any formal designation as contaminated land is permissible, which might only be possible with detailed investigation;
ii. Prior consultation with interested parties before designation as contaminated land;
iii. A minimum of a three-month period between designation and serving of a remediation notice;
iv. The requirement for the enforcing authority to make every effort to identify "the person who… has caused or knowingly permitted a pollutant to be in, on or under the land" (or "Class A" person).

The regulations allow condition ii and iii to be waived in extreme cases, but not conditions i and iv. Where relevant, liaison with other agencies such as NRW will be undertaken in order that the most relevant and expedient enforcement route can be pursued.

4.5.2. Environmental Search Reports

The Pollution Control Team offers an Environmental Search Report. The report draws information directly from the contaminated land database based on a spatial query. Information typically includes historically mapping from 1843 onwards and potentially contaminated sites. Further information held within the database such as disused tanks, site investigation reports, details on landfill content are added along with limited interpretation of the data to provide a complete record of known

information for a particular site. A fee is charged for the collation and interpretation of the data. This fee is reviewed annually and on a site by site basis should a larger or more complex search than average be requested. Reports are issued no more than 5 working days after receipt of payment.

4.5.3. CON29R Searches

A question relating to Contaminated Land was added to the form CON29 Enquiries of Local Authorities following the implementation of Part 2A under EPA 1990. The question is:

Question 3.12 Contaminated Land: *Do any of the following apply (including any relating to the land adjacent to or adjoining the property which has been identified as contaminated land because it is in such a condition that harm or pollution of controlled waters might be caused to the property)?*

a) *A contaminated land notice;*
b) *In relation to a register maintained under Section 78R of the Environmental Protection Act 1990*
   i) *A decision to make an entry*
   ii) *An entry*
c) *Consultation with the owner or occupier of the property conducted under Section 78G (3) of the Environmental Protection Act 1990 before the serving of a remediation notice.*

The response time will be in line with the requirements of service provision by the Land Charges team.

4.6. Review Mechanisms

4.6.1. Triggers for Undertaking Non-routine Inspections

There may be occasions where inspections may have to be carried out outside of the general inspection framework. Triggers for undertaking non-routine inspection will include:

- Unplanned events – e.g. if an incident such as a chemical spill has occurred;
- Introduction of new receptors – e.g. planning applications on a potentially contaminated site, designation of a newly protected ecosystem, persistent trespass onto a site by people;
- Supporting voluntary remediation – e.g. a potentially liable party wishing to undertake clean-up before their land has been formally inspected by the local authority;

- Identification of localised health effects which appear to relate to a particular area of land; or
- Responding to information from other statutory bodies, owners, occupiers, or other interested parties.

While these occurrences may trigger non-routine inspections, if this Strategy is to prove effective, they must not be allowed to significantly interfere with the milestones laid down in the general inspection framework. . It may also be more appropriate to make assessment and address unplanned events via other legislation such as the Environmental Damage Regulations (2009) or Statutory Nuisances (Part 3 of the Environmental Protection Act 1990).

Anonymously Supplied Information

Information supplied anonymously will be received but not necessarily acted upon, depending on the appropriate circumstances of each case. In most cases there is likely to be a need for dialogue with the person contacting the Council with information.

Anecdotal Evidence

Any anecdotal evidence provided to the Council relating to contaminated land will be noted, but no designation of contaminated land can occur without robust scientific evidence. In all cases the Contaminated Land Inspector will use developed competencies to decide what, if any, further investigation is required following a complaint or provision of information. Under normal circumstances such information will be recorded on the inspection database and the site inspected according to its priority, which can be reviewed on an on-going basis, and taking into account any new information. It is intended that the Authority will inspect sites on the basis of assessed priority, as required under the regulations, and not on the basis of the general concerns of interested parties. However flexibility will be integral to the Strategy. This is particularly to take into account potential development upon a contaminated site when opportunities for reclamation will be greatest, and also to deal with matters of specific public concern in order to address issues of risk perception that may adversely affect a particular locality.

4.6.2. Triggers for Reviewing Inspection Decisions

In addition there may be occasions where the findings of previous inspection decisions should be reviewed. This might occur if there were:

- Significant changes in legislation;
- Establishment of significant case law or other precedent; or
- Revision of guideline values for exposure assessment.

4.7. Cross boundary Contaminated Land

The Council will liaise with neighbouring Local Authorities at the earliest opportunity about priority sites with cross-boundary issues. Each site will be dealt with individually and consultation will be carried out to determine whether it is appropriate for one or both authorities to undertake a detailed inspection. This may depend on the extent of the site falling within each authority area, where the potential contaminant(s) and receptor(s) are located etc. Information held by the two authorities will be shared and the Council will ensure that both authorities are involved in the decision-making process.

4.8. Interaction with Other Regulatory Regimes

There are other regulatory actions that can be taken to deal with contamination on land. Crossover issues with planning, water pollution and Environmental Permitting Regulations are considered the most important and are addressed here. Any issues of land contamination that may previously have been dealt with under the statutory nuisance regime will now be dealt with through Part 2A processes.

4.8.1. Planning

The vast majority of contaminated land issues are currently addressed through the planning regime, where contamination is a material consideration. Any remediation agreed as a planning condition will be dealt with under planning controls and not under Part 2A.

In conjunction with the progression into its inspection program, the Public Protection Division has given the two planning authorities, Pembrokeshire Coast National Park Authority and Pembrokeshire County Council, access to its database of potentially contaminative land uses in order to assess the likelihood of potential contamination issues prior to determining any applications.

4.8.2. Water Pollution

The Water Resources Act 1991 gives NRW powers to deal with harm to controlled waters being caused by contaminated land. While Part 2A legislation does not revoke these powers, the Government have indicated that such problems should

now be dealt with under the contaminated land regime. The same procedure as investigating Special Sites will be implemented.

4.8.3. Environmental Permitting Regulations

New site operators are required to undertake a site condition survey prior to receiving a permit to operate. If the site condition is such that areas of land meet the definition of contaminated land, then submission of a site survey may trigger action under Part 2A.

4.8.4. Waste Management Licensing

A waste management site already licensed by NRW cannot be subjected to regulatory action under the contaminated land regime unless the contamination is clearly unrelated to the licensed activity on the site. In addition, the contaminated land regime cannot be used to address problems of illegal dumping of waste onto land as this is already subject to regulation by NRW. It will be important to ensure that any contaminated material generated by remediation of sites is disposed of in an appropriate manner, to ensure that the problem is not moved from one site to another, and that the requirements of waste management regulations are observed in this type of operation.

5. LIASON AND COMMUNICATION

5.1. Inspection Strategy Consultees

5.1.1. Statutory Consultees

- Natural Resources Wales;
- Welsh Government;
- Cadw (Welsh Government Historic Environment Service);
- Food Standards Agency;
- Carmarthenshire County Council;
- Ceredigion County Council; and
- Public Health Wales.

As the Authority carries out Initial Inspections, the Council is likely to be in regular consultation with the above bodies. These bodies will be consulted about sites for which they have some responsibility (either as a regulator, owner or occupier) or involvement (for instance, because they have designated the site as a protected area). Consultation will ensure the avoidance of unnecessary duplication of investigation or overlaps in regulatory activity.

In February 2003, the Local Government Association (LGA) and the Environment Agency agreed on a joint practice document entitled “Working Better Together”. It contains a commitment for local authorities and the Environment Agency to work together to deliver specific environmental outcomes. A series of local protocols set out how the Agency and each local Authority can work better together to deliver those outcomes and protocol No. 5, entitled Land Contamination, was jointly agreed in April 2003. It specifies Roles and Responsibilities for both parties and details the working arrangements and is fully supported by Pembrokeshire County Council. Although the responsibilities of the Environment Agency have been transferred to NRW the protocols still remain current.

5.1.2. Non-Statutory Consultees

There is scope for members of the public, businesses and voluntary organisations to play a role in dealing with contaminated land in the County. Efforts will be made to encourage participation in the process of identifying and investigating contaminated land and a collaborative approach to dealing with contamination issues will be encouraged and built upon.

5.2. Communicating with Owners, Occupiers and Other Interested Parties

Pembrokeshire County Council’s approach to its regulatory duties is to seek voluntary remedial action before commencing formal enforcement action. Where

enforcement action is taken, it will have regard to the Council's Enforcement Policy and the Concordat on Good Enforcement as adopted by the Council.

A co-operative approach requires effective communication with owners, occupiers and other interested parties. The Contaminated Land Inspector will be the central contact point within the authority on contaminated land issues and as such work to keep owners, occupiers and other interested parties informed at each stage of an investigation.

5.2.1. South West Wales Regional Contaminated Land Group

The regulations have applied to all Local Authorities in Wales since July 2001 and it is therefore important to ensure a consistent approach to regulation and to avoid duplication of effort in establishing procedures to deal with land contamination issues.

A regional officer working group for South West Wales has been established to deal with common issues of concern in the field of contaminated land, specifically the implementation of the new regime. The Group consists of Officers from the following authorities:

- Bridgend (representation provided by the Shared Regulatory Services of Cardiff, Vale of Glamorgan and Bridgend);
- Carmarthenshire;
- Ceredigion;
- Neath Port Talbot;
- Pembrokeshire;
- Powys; and
- Swansea.

The Regional Contaminated Land Officer for NRW is also a member of the group. The Group has a number of aims:

- To provide networking in support of Inspection Strategy developments and when dealing with developers / consultants who work throughout the region;
- To develop a common approach to risk assessment;
- To develop a set of standards for site investigation reports; and
- To ensure consistency in approaches both regionally and at the national level.

Two representatives of this regional group are also members of the National Welsh Land Contamination Working Group.

5.2.2. National Welsh Land Contamination Working Group

The National Welsh Land Contamination Working Group has broadly the same aims as the regional group but focuses on a national level. The group provides national training events and guidance documents with the aim of standardising the approach

to contaminated land assessment across Wales as a whole. One of the key documents for an all Wales consistent approach is the 'Development of Land Affected by Contamination: A Guide for Developers' which is available on the Council's website.

The group is formed by nominated representatives from the following bodies:

- North Wales Local Authorities (x2);
- South East Local Authorities (x2);
- South West Local Authorities (x2);
- NRW;
- Public Health Wales; and
- Welsh Government.

When appropriate the group may also seek attendance from other organisations when specific guidance is considered (e.g. planning).

5.3. Powers of Entry

At all times, the Council will take measures to ensure that its procedures for gaining site access are reasonable and compliant with the requirements of the Environment Act 1995 and the Human Rights Act 1998.

In accordance with Section 108 of the Environment Act 1995, the Council has statutory powers to authorise suitable persons to carry out inspection of land, including intrusive works. The Council can only exercise these powers if it is already satisfied that there is a reasonable possibility that a pollutant linkage exists and for cases involving intrusive site investigation, it is likely that a contaminant is actually present and a receptor exists (or is likely to exist) given the current land use. Section 108 powers cannot be exercised for intrusive site investigation when the Council already has the information it needs to decide whether or not the site appears to be Contaminated Land, or if a person provides the necessary information within a reasonable and specified timescale.

The Council will give at least seven days' notice of proposed entry on residential premises or on sites where an intrusive site investigation using heavy equipment (excavators, drilling rigs etc.) is to take place. If the occupier fails to grant consent for

inspection, the Council will seek to obtain a Magistrate's warrant in order to gain access.

In other cases, prior to entering a site to undertake a site visit or intrusive site investigation, the Council will attempt to gain prior consent from the current site occupier and/or owner. Where possible, consultations will be held to discuss:

- the agreed date of inspection;
- what the inspection will involve;
- who will undertake the inspection; and
- who is required to be present for interview during the inspection (if appropriate).

This will also enable health and safety precautions, consents or regulatory permissions necessary for access to, or work on, the site to be identified and obtained. However, in line with Section 108 provisions, the Council may enter a site at any reasonable time without prior notice and, in emergency situations, powers of entry can be exercised forthwith.

5.4. Enforcement Action

The Council has adopted an enforcement policy to ensure consistent, fair, and transparent practices are used when taking enforcement action. Contaminated land investigations will be carried out in accordance with this Council wide policy.

5.4.1. Designating an Area of Contaminated Land

Where a formal designation of contaminated land is required, the following actions will be undertaken:

- Write to the owner and / or the occupier of the land at least 5 working days prior to designation, explaining in summary the reason for designation.
- Write to the owner and / or the occupier explaining the land has been determined as contaminated land and seeking appropriate remediation without service of a notice.
- If requested, dispatch a copy of the written risk assessment to the owner and / or occupier of the land within 5 working days of receipt of a request.
- Write to the owner / occupier of neighbouring properties and / or the complainant within 5 working days of designation.
- Inform NRW of the designation at the same time as the owner / occupier is informed.

5.5. Serving a Remediation Notice

Where a remediation notice is required, the following actions will be undertaken:

- Provide a written remediation notice to the owner / occupier specifying action required.

- Write to the owner / occupier of neighbouring properties and / or the complainant within 5 working days of notice being served.

Should an urgent designation of contaminated land be required, these steps will be observed as far as practicable although some deviation from the timescales specified, may be required.

5.6. Risk Communication

The complex nature of contaminated land issues does not lend itself to easy explanation to the layperson. Development of effective methods of risk communication is therefore essential. The Council will treat any concerns raised by a member of the public seriously and with respect, recognising the importance of the issue to the individual. In all instances, the Council will recognise and try to overcome the critical barriers to effective risk communication.

The regulations grant only limited powers to Local Authorities to deal with materials present in, on or under the ground. Expectations may be that any material that is not naturally present in the ground should be removed, especially if it is in the vicinity of property, schools etc. The critical issue is however, that this can only be done where there is a risk of “significant harm”. It is possible that the expectations of some members of the public will not be met by the powers Local Authorities may exercise under contaminated land legislation.

The Council will not routinely contact the owner / occupier or other interested parties (such as site neighbours, users or those who could in some way be impacted by contaminants at the site) of each site undergoing the desktop stage of the inspection process for further site-specific information. They will only be contacted if information obtained and evaluated as part of the desk study strongly indicates the presence of potential pollutant linkages at a site.

The Council is aware of the need to avoid alarm and potential blight due to the creation of adverse perception of risks when communicating with the public about land contamination issues. The reasons for the request for information and the Council’s statutory duties will be clearly explained and all communication will be made in line with the guidance presented in the publication ‘Communicating and Understanding of Contaminated Land Risks’ (SNIFFER 2010).

5.7. The Public Register

Under the regulations, the Council is required to maintain a public Contaminated Land Register. The Public Protection Division of the Council will hold the register, which will be accessible at County Hall, Haverfordwest on request by members of the public during office hours, Monday to Friday. The regulations clearly specify the information that can be recorded on this register. This register will therefore contain:

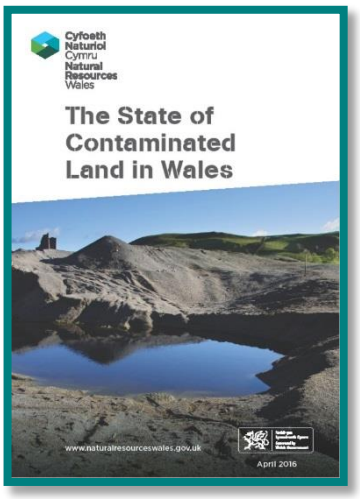
- Remediation notices;
- Details of site reports obtained by the authority relating to remediation notices;
- Remediation declarations, remediation statements and notifications of claimed remediation;
- Designation of sites as “special sites”;
- Any appeals lodged against remediation and charging notices; and
- Convictions.

The public register will not include details of historic contaminative land use and other records used in the investigation of potentially contaminated land. These are research documents, possibly unsupported by objective evidence, and as such will not be made available to the public.

5.8. Provision of Information to Natural Resources Wales

NRW will periodically require the Local Authority to provide information to enable them to prepare a *State of Contaminated Land Report*. This report includes:

- A summary of local authority inspection strategies, including progress against the Strategy and its effectiveness;
- The amount of contaminated land and the nature of the contamination; and
- Measures taken to remediate land.



The most recent report prepared by NRW was published in April 2016 provides an overview of Part 2A activity in Wales from 1st July 2001 to December 2013. The report can be viewed on the Council website.

The local authorities must also provide information to NRW whenever a site is determined as contaminated land, and whenever a remediation notice, statement or declaration is issued or agreed.

5.9. Data Management Issues

5.9.1. Freedom of Information Act 2000 and the Environmental Information Regulations 2004

The Freedom of Information Act deals with access to official information. In addition there are also regulations which provide access to environmental information. These are known as the Environmental Information Regulations. When responding to requests, there are procedural requirements set out in the Act which an Authority

must follow. There are also valid reasons for withholding information, which are known as exemptions from the right to know.

Implementation of the Strategy will result in significant volumes of data that will be held on computer databases and the GIS, as well as in paper form. The Council will comply with the requirements of the Environmental Information Regulations when dealing with requests for disclosure. These Regulations require Local Authorities to make environmental information available upon request, subject to certain exemptions. In all circumstances where there is doubt, the Council's Legal Division will be consulted.

Environmental information that is not available from a standard report will be provided if it meets the criteria included in the Environmental Information Regulations 2004. If copyright prevents reproduction of particular information access to view may still be possible. Any information held within the Part 2A register will be provided as required by Regulation 8.

5.9.2. Use by Other Internal Departments

It is desirable for the wider functions of the Council, particularly those relating to land use and regeneration, to be well informed on issues pertaining to land condition. Accordingly some of the data gathered during the implementation of this Strategy is to be made available through controlled access to the GIS elements relating to contaminated land indicating:

- Sites determined on the public register as Part 2A contaminated land;
- Sites where investigation or remediation is underway and an indication of the pollutant linkages involved; and
- Sites identified with potentially historic contaminative land-use (Landmark database).

Users will need to be made aware that the information held is not intended for use or interpretation by persons other than professional persons skilled in the use of property and environmental information.

5.9.3. Public Disclosure of Information

Requests for information will be dealt with, within the statutory timescale and a charge made for the supply of information (in accordance with the Regulations).

5.9.4. Data Protection Act 1998

The Data Protection Act applies to all personal data that is processed automatically and includes written records. The implications of holding information relating to the condition of potentially polluted property and the persons associated with that property and pollution could be significant. The matter will therefore be considered in detail with the Council's Data Protection Officer where appropriate.

6. CONTACT DETAILS

6.1. Provision of information relating to contaminated land

The Public Protection Division under the Development Directorate have the responsibility for the implementation of Part 2A of the EPA 1990. Any complaints or provision of information relating to potentially contaminated land will be dealt with by the Pollution Control Team.

Postal address: Pollution Control Team
Public Protection Division
Pembrokeshire County Council
County Hall
Haverfordwest
Pembrokeshire
SA61 1TP
Tel: 01437 764551
Email: pollution.control@pembrokeshire.gov.uk
Website: www.pembrokeshire.gov.uk

While the Council will accept all initial reports, if the matter involves development on a potentially contaminated site it may be appropriately dealt with through the planning process. In this case the matter will be referred to the Development Control Section of the Council or National Park, and liaison established to ensure the condition of the site is suitable for its intended use.

Development Control at Pembrokeshire County Council
Tel: 01437 764551
Email: planningenquiries@pembrokeshire.gov.uk
Website: www.pembrokeshire.gov.uk

Development Management at Pembrokeshire Coast National Park Authority
Tel: 01646 624800
Email: DC@pembrokeshirecoast.org.uk
Website: www.pembrokeshirecoast.org.uk

7. REFERENCES

DEFRA (2006) Circular 01/2006 'Contaminated Land'.

DEFRA (2013). SP1008 - Establishing data on background levels of contamination.

DETR (2001), Contaminated land Inspection Strategies, technical advice for local authorities.

Department of the Environment (1995) Land contamination: Department of Environment (DOE) industry profiles.

CL:AIRE (2014). SP1010 – Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination.

Environment Agency, Local Government Association and Welsh Local Government Association (2003). Working Better Together 2003 – Memorandum of Understanding.

Environment Agency (2004). CLR11 – Model Procedures for the Management of Land Contamination.

Environment Agency (2009), Science Report SCO50021/SR2: Human Health Toxicological Assessment of Contaminants in Soil.

Environment Agency (2014). Remedial Targets Methodology: Hydrogeological Risk Assessment for Land Contamination.

National Assembly for Wales. The Contaminated Land (Wales) Regulations 2006.

Office of Public Information (1990). Environmental Protection Act 1990.

Office of Public Information (1995). Environment Act 1995 (section 57).

Pembrokeshire Coast National Park. Local Development Plan (end date 2021).

Pembrokeshire County Council. Local Development Plan: Planning Pembrokeshire's Future (up to 2021).

Pembrokeshire County Council. Single Integrated Plan 2013-2018.

Pembrokeshire County Council. Strategic Asset Management Plan 2015/16-2019/20.

SNIFFER (2010). 'Communicating Understanding of Contaminated Land Risk'.

Statutory Instruments (2004). The Environmental Information Regulations 2004.

Statutory Instruments (2009). The Water Resources Act 1991 (Amendment) (England and Wales) Regulations 2009.

Statutory Instruments (2010). The Environmental Permitting (England and Wales) Regulations 2010

Welsh Land Contaminated Working Group (2016). Development of Land Affected by Contamination: A Guide for Developers.

Welsh Statutory Instruments (2009). The Environmental Damage (Prevention and Remediation) (Wales) Regulations 2009

Welsh Statutory Instruments (2012). The Contaminated Land (Wales) (Amendment) Regulations 2012

Wales Statutory Instruments (2013). Radioactive Contaminated Land Statutory Guidance for Wales 2012.

Wales Statutory Instruments (2015). Well-Being of Future Generations (Wales) Act 2015.

Welsh Government (2014). Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination – Policy Companion Document

8. APPENDICIES

Appendix A Glossary

DETR Circular 02/2000 contains a detailed glossary of terms that provides legal definitions of terms that may be used in this Strategy. This Glossary provides an interpretation of terms used in this Strategy to aid reading by the layperson.

Aquifer	A body of underground water.
Brownfield Site	A site that has been generally abandoned or underused where redevelopment is complicated by actual or perceived environmental contamination. Only a small proportion of Brownfield sites will meet the definition of contaminated land.
C4SL	Category 4 Screening Level
Cadw	Historic environment service of the Welsh Government.
CLEA	Contaminated Land Exposure Assessment; criteria for determining the risk of chronic human health effects.
Contaminated Land	Any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances, in, on or under the land that: a) Significant harm is being caused or there is a significant possibility of such harm being caused; or b) Pollution of controlled waters is being, or is likely to be caused.
Controlled Waters	These include: a) Inland waters (river, streams, underground streams, canals, lakes and reservoirs) b) Groundwater (any water contained in underground strata, wells or boreholes) c) Territorial waters (the sea within three miles of a baseline) d) Coastal waters (the sea within the baseline up to the line of highest tide, and tidal waters up to the fresh water limit.
DEFRA	Department of Environment, Food and Rural Affairs
Eco-system	A biological system of interacting organisms and their physical environment.
EPA 1990	Environmental Protection Act 1990.
FSA	Food Standards Agency.
GIS	Geographical Information System. A GIS is a computer system capable of assembling, storing, manipulating, and displaying geographically referenced information, i.e. data identified according to their locations.
Groundwater	Any water contained in underground strata, wells or boreholes.
IPPC	Integrated Pollution Prevention and Control. From Pollution Prevention Control Act 1999.
LDP	Local Development Plan

NBC	Normal Background Concentration
NRW	Natural Resources Wales
Pathway	One or more routes by which a receptor can be exposed to a contaminant.
PCC	Pembrokeshire County Council
PHW	Public Health Wales
Pollutant Linkage	The relationship between a contaminant, a pathway and a receptor.
Receptor	Sometimes referred to as "a target "– the health of a person, waters, ecosystem or property type that could be affected by contamination.
Remediation	Defined in the regulations as: (a) The doing of anything for the purpose of assessing the condition of: i. The contaminated land in question ii. Any controlled waters affected by that land; or iii. Any land adjoining or adjacent to that land (b) The doing of any works, the carrying out of any operations or the taking of any steps in relation to any such land or waters for the purpose: i. Of preventing or minimising, or remedying or mitigating the effects of any significant harm, or any pollution of controlled waters, by reason of which the contaminated land is such land; or ii. Of restoring the land or waters to their former state; or (c) The making of subsequent inspections from time to time for the purpose of keeping under review the condition of the land or waters.
Risk Assessment	The study of the probability, or frequency, of a hazard occurring; and the magnitude of the consequences.
SGV	Soil Guideline Value.
SNIFFER	Scotland & Northern Ireland Forum For Environmental Research.
Source	A substance in, on or under the ground with the ability to cause harm.
Source Protection Zone	Protection zones around certain sources of groundwater used for public water supply. Within these zones, certain activities and processes are prohibited or restricted.
Special Site	Contaminated land which meets one of the criteria laid out in the guidance for regulation by Natural Resources Wales (see Appendix B)
WG	Welsh Government

Appendix B Designating a Special Site

While Pembrokeshire County Council will be the lead regulatory authority dealing with contaminated land in its area, there may be some instances when regulation will be passed to NRW. This will only occur once the Council has determined a site as contaminated land and it meets one of the criteria of a "special site" as laid down in the guidance. There are three categories of sites when the NRW will assume regulation:

1. **Controlled water cases**, where contaminated land presents a significant risk to:
   - the wholesomeness of drinking water;
   - surface water classification criteria; or
   - a Principal Aquifer.

2. **Industrial cases**, where the contaminated land meets the descriptions given in the guidance of:
   - Waste acid tar lagoons;
   - Oil refining;
   - Explosives;
   - Sites regulated under Integrated Pollution Prevention & Control; or
   - Nuclear sites.

3. **Defence Cases**, where the Ministry of Defence currently owns the land.

The statutory guidance contains more detailed descriptions of each of these categories, which must be referred to before any Special Site designation can occur.

Appendix C European, National and Local Designations

This section sets out the designations and their importance and has been allocated into those designations derived from European law and directives, those derived from national legislation, and those formulated at a local level.

European Designations

The European Commission is committed to nature conservation and has made a number of commitments including the Ramsar Convention, the Bonn Convention, the Bern Convention, the Wild Birds Directive and the Habitats and Species Directive. Britain is obliged to meet the objectives of these various conventions, directives and agreements and a number of designations have been made. These are set out below.

Special Areas of Conservation

The EC Habitats and Species Directive is aimed at maintaining the rich variety of wildlife in vulnerable habitats throughout Europe by making Special Areas of Conservation (SAC) with regard to both land and marine sites.

Special Protection Areas

The EC Birds Directive requires member states to make Special Protection Areas (SPA) to conserve the habitats of birds that are listed as being rare or vulnerable or are migratory species.

Both SAC and SPAs contribute to the establishment of a series of sites known as Natura 2000 that will aim to protect the unique and special wildlife of Europe and ensure its survival for the future.

National Designations

National Park

The Pembrokeshire Coast National Park was designated in 1952 following the implementation of the National Parks and Access to the Countryside Act 1949. National Parks have two statutory purposes:

- To conserve and enhance the natural beauty, wildlife and cultural heritage of the National Park: and
- To promote opportunities for public enjoyment and understanding of its special qualities.

Where irreconcilable conflict arises between these purposes, the first purpose prevails. In pursuing these two purposes the Authority also has a duty to foster the economic and social well-being of communities living in the Park.

Sites of Special Scientific Interest

The Wildlife and Countryside Act 1981 gave powers to designate Sites of Special Scientific Interest (SSSI) for their biological and / or geological characteristics.

National Nature Reserves

National Nature Reserves are declared by NRW under the National Parks and Access to the Countryside Act 1949. These sites are areas of high wildlife habitat importance or of importance due to their geological features. Due to the statutory designation of National Nature Reserves they should be given high protection.

Marine Conservation Zones

The Marine and Coastal Access Act 2009 allows for the designation of Marine Conservation Zones, which protect especially important marine habitats and wildlife.

Tree Preservation Orders

The Town and Country Planning Act 1990 allows for the making of Tree Preservation Orders where trees are considered to have amenity value and contribute to the overall landscape or townscape. All trees within the Conservation Areas are also protected from felling or surgery without prior consent.

Archaeological Sites – Scheduled Ancient Monuments / Listed buildings

Listing is intended to ensure on going care and protection for important buildings. This added level of protection requires a form of a special planning procedure known as Listed Building Consent.

Scheduled ancient monuments reflect built structures dating from prehistory through to the 20th Century. The County Council holds a list of Scheduled Ancient Monuments in Pembrokeshire and Dyfed Archaeological Trust Heritage Management maintains the Historic Environment Record for southwest Wales.

Local Designations

There are a number of designations that have been made at a local level that need to be taken into account. The non-statutory status of these designations lessens their status when considered against the above-designated sites. However, this does not mean that where local designations are made, that they are of little importance, but rather that a strong justification should be given for their designation over and above the value of the countryside as a whole. Existing local designations need to be carefully reconsidered as part of the LDP process to ensure that they can continue to be justified in the light of the move in emphasis in national guidance to give the whole countryside a value.

Areas of Special Landscape Value

Areas of Special Landscape Value are designated for their importance in terms of landscape character and quality and should be of sufficient geographical extent to justify recognition and protection.

Regionally Important Conservation Sites

These areas are designated for their geological, geomorphological or nature conservation value. These sites should be significant at a regional scale but are not recognised at a national scale of meeting the criteria as an SSSI.

Local Nature Reserves and County Wildlife Trust Nature Reserves

Unlike the National Nature Reserves, local nature reserves are non-statutory but are designated for their local wildlife and habitat importance. Most local nature reserves are privately owned and run by the Wildlife Trust and the Royal Society for the Protection of Birds.

Ancient Woodland

Ancient Woodland is woodland that has been in existence since before 1600 AD, and provides a wide range of valuable wildlife habitats as well as contributing to the overall landscape. Ancient woodlands can be split between ancient woodland and ancient semi-natural woodland. The former comprises woodland that contains relicts of woodland from the last glaciation, whilst ancient semi-natural woodland comprises woodland that does not obviously originate from planting. Ancient woodland, whilst not a statutory designation should be protected from development that would destroy or damage its sensitive ecological balance.

Common Land of Special Interest

Common Land is an area of land normally comprising open grassland, wet heathland and wetland that have survived due to the historic use of the land. Common Land needs to be protected from future development.

Local Amenity Areas

Local Amenity Areas are areas of land within existing settlements that provide amenity, nature, conservation or landscape value. Whilst these areas are non-statutory they are important areas for amenity purposes within the built environment. However, their continued designation should be carefully weighed against the need to provide development within existing settlements.

Other Designations

There are a number of other non-statutory designations that recognise the importance of areas of land for their landscape, geological and ecological value. Various bodies have derived these, and whilst they have little legal status they are a further consideration when assessing inspection priority in these areas.

Heritage Coast

This designation has no legal status but has been identified to recognise the value of the visual appearance of the coast and to protect the coastline from insensitive development.

Register of Landscapes, Parks and Gardens of Special Historic Interest in Wales

Cadw (Welsh Historic Monuments) has produced a Register of Landscapes, Parks and Gardens that recognises the significance of certain landscapes, parks and gardens for their cultural associations and as part of our heritage. Again, this register is non-statutory but provides further weight for restricting inappropriate development in these areas.

Regionally Important Geodiversity Sites (RIGS)

RIGS are a non statutory geodiversity designation designated by Geodiversity Cymru. They sit under the Geological Conservation Review sites designation.

Glastir (formerly Environmentally Sensitive Area and Tir Gofal)

The Environmental Sensitive Area scheme was replaced Tir Gofal and subsequently by Glastir a program funded by the Welsh Government Rural Communities - Rural Development Programme 2014-20 and financed by the Welsh Government and the European Union. It is a sustainable land management scheme and is designed to deliver measurable outcomes at both a farm and landscape level in a cost effective way. Aims include:

- combating climate change;
- improving water management; and
- maintaining and enhancing biodiversity.

Agricultural Land Classification

The former Ministry of Agriculture, Fisheries and Food classified agricultural land into five grades with Grade 1 being the highest. This grading was based on the productivity of the soil for crop production with high protection of Grade 1 land to be given to protect the agricultural sector. This classification is still referred to, but due to the decline in agriculture has less weight than in the past. However, it is necessary to be aware of the value of agricultural land in dealing with contamination issues.

Appendix D Information Sources

Many sources of information will be required to identify potential sources of contamination and potential receptors. Some of the resources are detailed below.

Organisation / Dataset	Description	Purpose (To identify)
Landmark Data Set	GIS layers of potentially contaminative land uses in Pembrokeshire	Identify Source
Pembrokeshire County Series historical map data	Historic mapping from Ordnance Survey from 1890's to 1945.	Identify Source
Public Protection Records	Database collated of historic land use, which could cause contamination Database of service requests, site surveys, complaints. Private Water Supplies Petroleum Licensing Records	Identify Sources Identify known information on contamination and related problems Identify Receptors Identify Sources
Planning Records	Information on previous and proposed land uses, including Derelict Land Survey 88/89. The Council holds Planning records of development in the area, including information on ground condition presented in surveys.	Identify Sources and potential Receptors. Identify known information on contamination
Pembrokeshire County Council Local Development Plan	Information on current & future land uses.	Identify Receptors.
Pembrokeshire Coast National Park Authority Local Development Plan	Information on current & future land uses within Pembrokeshire Coast National Park.	Identify Receptors.

Organisation / Dataset	Description	Purpose (To identify)
Land Reclamation	Information on land reclamation projects.	Identify known information on contamination
Engineering	Information on Site Investigations, Landfill Sites & Remediation Work.	Identify known information on contamination
County Council Corporate Records	Information relating to designation in Pembrokeshire, especially environmental & archaeological designations.	Identify Receptors
County Records & Library	Information relating to industrial heritage and historic land uses. Contains a number of sources describing land-use in the County essential for researching site history prior to the end of the Second World War when the Town & Country Planning legislation came into force.	Identify Sources
Dyfed Archaeological Trust	Knowledge and information pertaining to past industrial land use.	Identify Sources and Receptors
WAG Air Photography Records	Collection of historic aerial photographs taken over the past Century.	Identify Sources and known information on site history and development.
Kellys Directory	Directory of wide range of industries over the last 50 years.	Identify Sources
MOD, Brecon Office	Information on current MOD landholdings.	Identify Sources
National Gas Archive	Information on Gasworks (Gaswork owned by British Gas after 1950).	Identify Sources and known information on contamination
BGS Geological Maps	Held in house.	Characterise Pathways and Identify Receptors
Aquifer Vulnerability Maps	Purchased in 2004 Identify and classify aquifers in Pembrokeshire and provide	Identify Pathway and Receptors

Organisation / Dataset	Description	Purpose (To identify)
	information on soil vulnerability classification.	
Soil Maps	Published by the Soil Survey and Land Research Centre. The Groundwater Vulnerability Maps include details relating to soil leaching.	Identify Pathways
Agricultural Maps	Soil classification	Characterise Pathways
Environment Agency and Natural Resources Wales Data (digital copy on GIS)	Source Protection Zones	Identify Receptors
	IPC & IPPC Sites Permitted processes by the EA.	Identify Sources (consideration for Special Sites)
	Active & Closed Landfill Sites	Identify Sources
	Licensed Abstractions	Identify Receptors
	Waste Management Licenses	Identify Sources
Historic Environment Record for Pembrokeshire (HER) *Held by the Dyfed Archaeological Trust*	HER is a record of all known archaeological sites, including scheduled ancient monuments	Identify Sources and Receptors
Cadw	GIS shape files for archaeological designated sites	Identify Receptors
National Museums and Galleries of Wales	Knowledge and information pertaining to Industrial history	Identify Sources

NRW and Welsh Government are also in the process of creating centralised libraries of some of the above information that are available for use by Local Authorities. The Council now has a direct link to several of the above databases via the GIS software to ensure that the information held is as up to date and as accurate as possible.

Appendix E Site Prioritisation

Stage 1 Risk Prioritisation: Prioritising Sites

As Contaminated Land is a risk assessed concept, the basis for determining whether a site is contaminated land is to establish the presence of a significant pollutant linkage (i.e. a contaminant-pathway-receptor relationship). If we can identify where significant pollutant linkages are most likely to exist, then this forms a logical starting point for the inspection process.

In order to do this, the following approach will be adopted:

i. Identify location and nature of potential contaminant sources;
ii. Identify location and nature of receptors;
iii. Find sites where both contaminants & receptors are present (i.e. identify where potential pollutant linkages exist);
iv. Identify all potential pollutant linkages at each site;
v. Score sites according to potential risk;
vi. Prioritise sites for inspection;
vii. Refine prioritisation.

It is recognised that a substantial number of different datasets could be obtained and appraised for this exercise. However, a 'historical land use' dataset is considered to provide sufficient information for preliminary screening. This identifies sites, which have (or had) a potentially contaminative use as some of these sites will contain substances in, on, or under the ground, which have the potential to cause harm.

Accordingly the Authority acquired the Landmark Historic Land Use Database, showing the location of potentially contaminative sites throughout the County. These sites were pinpointed on the basis of governmental advice as to the identification and classification of potentially contaminative land uses. It is important to consider that care has to be taken as to the accuracy and validity of the information provided by Landmark.

Existing in-house records / data and maps showing other principal contaminating activities such as petrol filling stations and waste management facilities have also been appraised and relevant sites digitised accordingly.

It should be emphasised that only a small proportion of sites subject to potentially contaminative land use will meet the strict definition of Contaminated Land.

To apply the pollutant linkage principles of Part 2A the locations of possible receptors and pathways must be considered. As these include houses, schools, watercourses, ecosystems, agricultural land, ancient monuments etc. with numerous potential pathways, the amount of information handled will be large and the

management of the data will be a significant issue. To this end, it is essential that the Environmental Information System is able to store and handle a large quantity of data.

In order to identify whether a plot of land has been subject to a contaminative use, each relevant layer of the Council's Geographical Information System (GIS) will be interrogated.

The Council utilise specific software to prioritise sites based on the Source-Pathway-Receptor concept to assess risks. It is split into two stages. The Stage I assessment involves hazard ranking sites based on their historical industrial uses and the receptor's sensitivity. The Stage II procedure involves refining the assessment from Stage I by carrying out an exposure assessment.

The Stage I assessment can be carried out very rapidly, providing that source and receptor information is available. The assessment produces a priority listing of sites for each type of receptor considered. The final score attributed against each site enables the classification of the site according to a range of categories varying from very high to low perceived risk. This method is currently being reviewed in line with the new Statutory Guidance and the introduction of Categories 1 to 4.

Finding Potential Pollutant Linkages

Once we have the essential datasets that define potential contaminant sources and receptors, the next step is to find out where pathways are most likely to complete the pollutant linkages. A preliminary screening exercise will be undertaken to identify those sites where potential contaminants and receptors are both present. This exercise will thus tell us where potential pollutant linkages are most likely to exist. The purpose of this initial exercise will not be to confirm the existence of a pathway, or to provide any further information about its nature or integrity. Lateral migration pathways are not considered at this stage either. These issues will be the focus of subsequent work to be undertaken during the Detailed Inspection phase.

Geographical Information System

The preliminary screening exercise was undertaken using GroundView™, a GIS management software package designed specifically for use by local authorities implementing Part 2A. GroundView™ assesses GIS data to determine where potential pollutant linkages exist, following the basic methodology described above. Entire datasets (e.g. the whole of Pembrokeshire) were appraised simultaneously. This allowed for rapid screening and effective management of large quantities of data.

Once GroundView™ identified potential pollutant linkages, it assigned them a score on the basis of potential risk. This took account of contaminant and receptor scores as well as the amount of locational overlap (i.e. how much of the contaminant and

receptor are present in any one location), indicating those sites where the greatest potential risks existed. Most of the sites were digitised and entered into a database system using GroundView™ as the interface.

To progress matters more efficiently and comply with the introduction of the Freedom of Information Act, the Council, in conjunction with the South West Wales Regional Contaminated Land Group has purchased a common information system, the GeoEnviron Contaminated Land Software. The use of this software is consistently under review to ensure that it meets the specific requirements of the Council.

Refining Prioritisation

The preliminary site prioritisation exercise has enabled us to determine which sites should be inspected first on the basis of potential risk. The next step is therefore to find out:

i. on which sites there is evidence of actual harm or pollution of controlled waters; and
ii. where contamination is being or may already have been addressed.

The prioritisation is to be refined using the Councils dedicated software to ensure the focus is on the most pressing and serious problems first and not on those sites where risks associated with land contamination are already being addressed.

Increased Priority

As part of the reprioritisation process, regulators, statutory consultees and other public authorities will be contacted to determine whether they have any particular sites of concern. They will be asked to provide any information indicating potential for, or evidence of, significant harm or pollution of controlled waters. At this stage, data and scoring values may also be reappraised to take account of locally increased environmental sensitivities; for instance, a Principal Aquifer would be assigned a higher receptor score than a Secondary B Aquifer. This information will then be evaluated using the software in order to reprioritise sites for inspection. Sites where there is evidence of harm to humans will take the highest priority for inspection. Where there is knowledge of past and / or current complaints from local residents or for example evidence of leaching in the stream, the site will automatically be assigned a higher score in relation of its contaminant source and a score for the pathway can then be attributed. This will enable the site to increase in rank in relation to the overall risk priorities.

Additional priority will also be given to sites believed to be “orphan sites” i.e. where no appropriate person is known who would be liable for remediation costs but where there are suspected contamination issues.

Consideration will be given to increasing the priority of sites that are likely to be significantly impacted by climate change (predominantly through increased flood risk or drought). This will be on a site by site basis but must ensure that any climate

change does not adversely impact sites through increased leaching or release to air (during periods of drought) of contaminants.

Decreased Priority

Sites where land contamination will be, or is already being, addressed through other regulatory regimes will take lower priority for inspection. Carrying out a comparison with the appropriate NRW or Council datasets, the majority of which are already held in GIS compatible format, will identify such sites, e.g. planning, permitted sites etc. Information will then be fed into the software for reprioritisation. Sites where remediation is known to have taken place will take the lowest priority. It is important to stress that remediated sites will not be removed from the inspection list. Checks will need to be undertaken to ensure that the appropriate level of remediation has taken place and the sites are now 'suitable for use'.

Carrying Out Initial Inspection

Detailed inspection outlines the procedures that will be followed to collate and assess further information in order to determine the existence of pollutant linkages so that it may be decided whether a site constitutes Contaminated Land.

Undertaking the preliminary screening exercise will result in the identification of those sites where potential pollutant linkages exist. The next stage, and thus the purpose of carrying out an Initial Inspection, is to obtain sufficient information:

i. about the three elements (i.e. contaminant, pathway, receptor) of the suspected pollutant linkage(s) to determine whether the site appears to be Contaminated Land; and
ii. to decide whether the site could fall within the definition of a Special Site.

The starting point will be to acquire evidence that a contaminant is actually present on a given site, and then to carry out a site specific risk assessment to determine the existence of a pollutant linkage and its significance. Information about the former / current use of the site and the nature of the contaminant will enable us to determine whether the site is likely to fall within the definition of a Special Site.

Initial Inspection may include the following:

- A desk-based exercise ('desk study') to gather and assess further documentary evidence;
- A site visit for visual inspection and perhaps, limited sampling.

A desk study and site visit will be required for all sites undergoing Initial Inspection. If the findings of this study continue to suggest that pollutant linkages exist, but the information is insufficient to determine the site as Contaminated Land, then more detailed work in the form of an intrusive site investigation may be necessary.

An intrusive site investigation involving the sampling and analysis of site soils, ground gases and / or groundwater will only be necessary after the Stage II risk prioritisation.

The collation of information is an iterative process. Each stage of the initial inspection may flag up the need to acquire further information. This may mean going back to undertake further desk based research or a second stage of more detailed site investigation. The initial inspection only ends when sufficient information has been obtained to determine the site as Contaminated Land or when there does not appear to be any significant pollutant linkages at the site. The procedures we will follow for undertaking an initial inspection will be based on well-established and industry adopted good practice techniques.

The Desk Study

The purpose of the desk study is to gain more information about the potential pollutant linkages identified by the preliminary screening exercise. This will involve finding out specific information about contaminants, pathways and receptors to enable a greater understanding of site conditions, including details of site boundaries. Carrying out desk based research will also serve to identify further potential pollutant linkages that may be present. Obtaining this information will ultimately allow the development of a 'conceptual site model' – i.e. a picture of all potential pollutant linkages at the site.

The first step of the desk study will be to review data already held by the Council. This may be in electronic format (e.g. databases), on GIS or in hard copy (paper) form. Where clear gaps in existing information are identified which prevent considered decision-making, further documentary data will be sought and obtained from appropriate sources such as NRW, other statutory bodies or stakeholders.

Site Visit

The purpose of the site visit is to gather further information about already identified potential pollutant linkages and assess whether identified or new pollutant linkages exist. For example, it is often likely that trespassers on a site may not have been considered in the first risk prioritisation stage.

A site visit may be to determine the likelihood that contaminants and receptors are present, and/or to gather further information about relevant pathways. In some cases the site visit will allow us to clarify and verify desk study information and in particular, to consider in more detail the site boundaries. Also, the site visit may be used to assist in the planning of any intrusive site investigation that may be required.

In the majority of cases the site visit will be limited to a visual inspection of the site carried out as a walkover exercise. An inspection form has been drafted to enable each site inspection to be consistently recorded. During the walkover a site plan will

be drawn up and annotated, and digital photographs will be taken. Where possible, inspection will also be carried out on land directly outside the site boundaries.

On some sites it may be appropriate or necessary (e.g. on operational sites) to be accompanied by the site owner, occupier or another representative during the reconnaissance to discuss access issues and practicalities for potential future intrusive site investigation.

The site walkover is useful in gathering anecdotal evidence on the site history and development over the years, and assess the current use of it, especially if the land appears to have been vacated.

Limited manual sampling of near surface soils, vegetation and on site or adjacent surface waters may be undertaken during the site visit as a screening process. Samples would then be submitted for chemical laboratory analysis. Sampling will only usually be carried out if the information it will generate is likely to provide positive evidence of the presence or absence of a contaminant, a pathway or an impact on a receptor within a suspected pollutant linkage.

The necessity for a more detailed site investigation, i.e. intrusive will be determined following the findings of the preliminary site walkover and the subsequent Stage II risk prioritisation of the sites.

Stage II Risk Prioritisation Risk Assessment

The Stage II assessment involves refining the priority listing obtained from Stage I, by carrying out a pathway, or exposure assessment to determine whether or not a potential pollutant linkage exists. The priority listing arrived at after Stage II can be used to inform decisions as to which sites should be investigated further under the Part 2A regime.

After each stage of the inspection process, all new information will be logged in the site record in the Contaminated Land database. This will then be reviewed alongside existing information and used to refine the conceptual site model.

The findings of the risk assessment will allow us to revise the priority status of a site by establishing whether its pollutant linkages require further action or if we are confident they are non-existent. It will thus enable us to determine whether it is needed to progress to the next stage of detailed inspection to find out further information.

For example, it may be that no further investigation is required because robust evidence exists that the site has been previously remediated to an acceptable standard (i.e. all pollutant linkages have been ‘broken’). Alternatively, existing site investigation data may indicate the presence of contaminants at unacceptable levels

and the existence of direct pathways to a receptor. In this latter case sufficient information for a robust risk assessment may be available about certain pollutant linkages to determine the site as Contaminated Land without any further inspection.

Intrusive Site Investigation

The intrusive site investigation may involve the excavation of trial pits, drilling of boreholes, installation of monitoring wells etc. in order to allow the sampling and subsequent chemical analysis of site soils, waters and / or gases. The level of investigation is site specific, e.g. dictated by the level of information required, the number and nature of pollutant linkages at the site, local environmental sensitivities, the level of confidence required, the practicalities of investigation (access restrictions etc.), cost implications etc.

The purpose of the intrusive site investigation is to collect sufficient information to better characterise actual or potential pollutant linkages at the site, refine the conceptual site model, and in the case of human health risk, develop a conceptual exposure model. On completion of the intrusive site investigation, the aim is to decide whether any 'significant' pollutant linkages actually do exist.

Advice from NRW will be sought for investigations of sites where there is potential pollution of controlled waters. Similarly, other statutory bodies will be consulted ahead of carrying out investigations on sites in which they have an interest.

Any proposals to carry out intrusive tests within scheduled ancient monuments will require an application to Cadw for scheduled monument consent.

Where a pollutant linkage exists or could exist, the conclusions of the site investigation work and risk assessment process will be to recommend a range of potential relevant remedial and/or preventative measures, which will be assessed on the circumstances of each case.

Risk Assessment and Estimation

To establish whether identified contaminates pose a significant risk to human health results from the site investigation will be compared with appropriate guideline values. The introduction of the new Statutory Guidance in 2012 has led to the replacement of the previous soil screening guideline values (SGVs) with more pragmatic (but still strongly precautionary) Category 4 screening levels (C4SLs). These are aimed at providing a higher simple test for deciding that land is suitable for use and that it doesn't meet the definition of Contaminated Land.

The CL:AIRE report on the development of Category 4 Screening Levels identifies:
A key distinction between the Soil Guideline Values (SGVs) and the C4SLs is the level of risk that they describe. As described by the Environment Agency (2009a):

"SGVs are guidelines on the level of long-term human exposure to individual chemicals in soil that, unless stated otherwise, are tolerable or pose a minimal risk to human health."

The implication is that minimal risk is well within Category 4 and that the C4SLs should describe a higher level of risk which, whilst not minimal, can still be considered low enough to allow a judgement to be made that land containing substances at, or below, the C4SLs would typically fall within Category 4. This reflects Paragraph 4.20 of the revised Statutory Guidance, which states:

The local authority should not assume that land poses a significant possibility of significant harm if it considers that there is no risk or that the level of risk posed is low. For the purposes of this Guidance, such land is referred to as a "Category 4: Human Health" case. The authority may decide that the land is a Category 4: Human Health case as soon as it considers it has evidence to this effect, and this may happen at any stage during risk assessment including the early stages.

Following the introduction of the amended Statutory Guidance revised screening values for arsenic, benzene, benzo(a)pyrene, cadmium, chromium VI and lead have been published and the SGV for nickel has been withdrawn.

C4SLs are used to assess the risks posed to human health from exposure to soil contamination and also represent intervention values, i.e. indicate that soil concentration exceedences could pose an unacceptable risk. They however should not be viewed as "SPOSH levels" and they should not be used as a legal trigger for the determination of land under Part 2A.

The introduction of normal background concentrations within the revised Statutory Guidance has led the British Geological Society (BGS) to publish values for arsenic, asbestos, benzo(a)pyrene, lead, cadmium, copper, nickel and mercury. The Guidance is prescriptive on what would be considered as 'normal' and although not explicitly a risk assessment tool, will need to be considered when undertaking an assessment as to whether a risk is identified. This initially will be done by establishing if contamination is within the bounds of what might be considered typical / widespread.

The risk assessments for controlled waters will be, in most cases, undertaken in conjunction with, NRW. This will normally be in line with the Environment Agency Remedial Targets Methodology: Hydrogeological Risk Assessment for Land Contamination.